

### **REMARKS**

Applicants respectfully request reconsideration of this Patent Application, particularly in view of the above Amendment and the following remarks.

#### **Amendment to the Claims**

Applicants have further amended Claim 1 by correcting a typographical error in the spelling of isovaleric acid.

Applicants have further amended Claims 13 and 28 by deleting the term "substantially."

Applicants have further amended Claims 24 and 25 by deleting the term "relatively" and to better define the invention.

#### **Restriction Requirement**

Applicants hereby affirm the provisional election to prosecute Group I (Claims 1-60) made on 09 May 2002. Applicants have canceled Claims 61-79 as being drawn to a non-elected species.

### **Specification**

Applicants thank the Examiner for the reminder of the proper language and format for an abstract of the disclosure. Applicants have amended the Abstract of the Disclosure, substituting the term "including" for the term "comprising" and correcting a typographical error. Applicants respectfully urge that the amended Abstract of the Disclosure complies with the Examiner's comments. If the Examiner has any additional objections to Applicants' Abstract of the Disclosure, Applicants request the Examiner contact the undersigned attorney, preferably by telephone.

### **Claim Objections**

Applicants have corrected the typographical error in the spelling of isovaleric acid in Claim 1.

### **Claim Rejections - 35 U.S.C. §112**

Claims 13 and 28 have been rejected under 35 U.S.C. §112, second paragraph, because of the term "substantially." Applicants have amended Claims 13 and 28 to delete the term "substantially" as previously discussed. Applicants urge that the above Amendment overcome the rejection of Claims 13 and 28.

Claims 24 and 25 have been rejected under 35 U.S.C. §112, second paragraph, because of the phrase “relatively more concentrated.” Applicants have amended Claims 24 and 25 to delete the term “relatively” and urge that the phrase “more concentrated,” together with the remaining claim language, clarifies the scope of the invention. Applicants urge that the above Amendment and comments overcome the rejection of Claims 24 and 25.

#### **Claim Rejections - 35 U.S.C. §102**

The rejection of Claims 27-39, 41-43, 47-51, and 55-60 under 35 U.S.C. §102(b) as anticipated by Ohama, U.S. Patent 5,703,152, is respectfully traversed. Applicants' invention of Claims 27, 47, 55, and 58 includes activated carbon coated with a coating material. The coating material includes a binding agent and a masking agent for masking the black color of activated carbon without significantly reducing the adsorption efficiency of the activated carbon. (*See* Specification page 5, lines 5-11).

Ohama teaches adding a deodorizing composition to paints, inks, and mixed with resins and dried thereon. (*See* Column 2, lines 15-37). Ohama teaches a new use for a deodorizing compound that is known in the art for applying to paper-like bodies, such as wall paper, *or* porous materials, such as activated carbon.

(Column 1, lines 25-29). The deodorizing composition contains an iron (II) compound and a chelating agent. Although iron (II) compounds may be colored, there is no teaching in Ohama that the iron (II) compounds can be used to mask the dark color of activated carbon. Ohama teaches that the chelating agent stabilizes the iron ion to a porous substance, and that the chelating agent can reduce or eliminate the coloring of iron complexes. (See Column 3, lines 60-67). Ohama does not teach or suggest a deodorizing composition for color coating activated carbon or a deodorizing composition that includes a masking agent that can mask the dark color of activated carbon.

Ohama teaches a deodorizing slurry consisting of an iron (II) compound, chelating agent, and porous substance. (Column 2, lines 64-67). The iron (II) ion is stabilized to the porous substance by the chelating agent. (Column 3, lines 60-63). The chelating agent includes various acids and water-soluble salts that chelate with iron ions. (Column 3, lines 6-31). Ohama does not teach that activated carbon is useful as a porous substance for the deodorizing slurry. (See Column 3, lines 24-31).

Ohama teaches mixing and/or kneading the deodorizing slurry with adsorbents such as activated carbon (Column 4, lines 20-26) *or* to a resin for molding into an article (Column 6, lines 29-58). Ohama does not teach or suggest binding a resin to activated carbon. Ohama discloses molded resin articles and paints mixed in

suspension with the deodorizing composition. The paints of Ohama include a resin and pigment, as are common in conventional paints, with the addition of the deodorizing slurry containing the iron (II) compound, chelating agent, and porous substrate. (Column 4, lines 40-65). Ohama does not teach or suggest adding activated carbon to any paint composition. Ohama also does not teach or suggest that the paint can be used to coat activated carbon. (See list of suitable paint uses in Column 5, lines 59-67). Coating activated carbon with the paint of Ohama would block the adsorbent properties of the activated carbon.

The Examiner alleges in the Office Action that Ohama teaches a deodorizing composition for impregnating into a fibrous material, a masking agent, a binding agent, and a blowing agent. As discussed above, Ohama does teach a deodorizing composition that can be applied to activated carbon, however, the deodorizing composition is not a coating material having a masking agent and a binding agent as in Applicants' claimed invention. Ohama teaches that the deodorizing composition can be applied to activated carbon, and does not teach or suggest applying resins or pigments to activated carbon. The resins and pigments of Ohama are used to make paint that does not include activated carbon, and are not binding agents or masking agents for coating activated carbon. The resins are also not used as elastomeric or deformable binding agents as in Applicants' Claims 47 and 55

respectively. The blowing agents of Ohama are used to generate a gas upon heating that forms a porous paint layer. (Column 5, line 30-Column 6, line 3). Ohama also does not teach or suggest using the blowing agent as a binding agent or a masking agent for coating activated carbon. In addition, the properties of the coated activated carbon would not be inherent as Ohama does not teach coating activated carbon with a masking agent or a colored coating material.

As Ohama does not teach or suggest a coating material for activated carbon having a binding agent and a masking agent, or a colored coating agent for activated carbon, as in one of Applicants' Claims 27, 47, 55, and 58, Ohama does not teach each and every limitation of Claims 27, 47, 55, and 58. Therefore Ohama does not anticipate Applicants' Claims 27, 47, 55, and 58. Claims 28-39, 41-43, 48-51, 56, 57, 59, and 60, depend from one of Claims 27, 47, 55, 58, and are patentable for at least the same reasons.

### **Claim Rejections - 35 U.S.C. §103**

The rejection of Claims 1-6 and 8-26 under 35 U.S.C. §103(a) as being unpatentable over Ohama, U.S. Patent 5,703,152, is respectfully traversed. As discussed above, Ohama teaches a deodorizing compound that can be applied to activated carbon, but the deodorizing compound does not mask the dark color of

activated carbon. Ohama teaches resins such as synthetic rubbers, silicon resins, and pigments for paints, and does not teach using the resins as a binding agent for coating activated carbon or the pigments as a masking agent for activated carbon. Ohama teaches pigments in Column 4, lines 55-61 for use in paints. The paints of Ohama do not contain activated carbon and the paints are not suitable for applying to activated carbon and still retaining the adsorption abilities of the activated carbon.

Ohama does not teach or suggest coating activated carbon with a coating material including a binding agent and a masking agent as in Applicants' Claim 1. Ohama also does not teach or suggest coating activated carbon with a masking agent wherein the coated activated carbon has a Relative Adsorption Efficiency with respect to at least one odoriferous agent of at least 30%. Claims 2-6 and 8-26 depend ultimately from Claim 1, and are patentable for at least the same reasons.

The rejection of Claims 7, 44, 45, 52, and 53 under 35 U.S.C. §103(a) as being unpatentable over Ohama, U.S. Patent 5,703,152, in view of Mauro et al., U.S. Patent 5,480,636, and further in view of *Hawley's Condensed Chemical Dictionary*, 14th Edition, is respectfully traversed. As discussed above, Ohama does teach a deodorizing composition for applying to activated carbon but does not teach a coating material including a binding agent and a masking agent as in Applicants'

claimed invention of 1, 27, and 47. Mauro et al. teaches deodorizing materials, and does not teach or suggest coating activated carbon with a binding agent and a masking agent used to reduce the undesirable black color of the activated carbon. *Hawley's Condensed Chemical Dictionary* teaches known gas odorants and has not been alleged to teach or suggest any coating of activated carbon. Therefore, one skilled in the art would not find it obvious to coat activated carbon to mask the dark color as in Applicants' Claims 7, 44, 45, 52, and 53.

The rejection of Claims 40, 46, and 54 under 35 U.S.C. §103(a) as being unpatentable over Ohama, U.S. Patent 5,703,152, in view of Pyzel, U.S. Patent 3,731,678, is respectfully traversed. Claims 40, 46, and 56 are dependent from one of Claims 43 and 51, and are patentable for at least the same reasons as Claims 43 and 51. Also, as stated previously, Ohama does not teach or suggest activated carbon coated with either a binding agent and masking agent, or an elastomeric binding agent. Pyzel does teach the use of activated carbon for use in a respirator. However, Pyzel does not teach or suggest coating the activated carbon with a coating material. The activated carbon of Pyzel is contained inside casing 10, and is not seen by the user. (Column 6, lines 11-13). Therefore one skilled in the art reading Pyzel would not find any suggestion or motivation to coat the granules of activated carbon with a masking agent. One skilled in the art reading Ohama would not find it obvious to coat



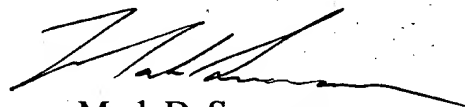
the granular activated carbon of Pyzel with either a binding agent and masking agent or an elastomeric binding agent.

### Conclusion

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed in this response, Applicants' undersigned attorney requests a telephone interview with the Examiner.

Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully requests early allowance.

Respectfully submitted,



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**Marked-up Version Showing Changes Made**

In the Specification, in the Abstract of the Disclosure on page 35:

Activated carbon particles or fabrics are coated with a deformable or water-insoluble coating material [comprising] including a binding agent and a masking agent that can be colored. The coating material can provide sufficient diffusivity to permit excellent efficiency in adsorption of materials in spite of the presence of a coating layer on the activated carbon. The use of a deformable binding agent yields coated particles that make relatively less noise when the particles flow or are moved in use, and that have improved tactile properties in use. High performance colored activated carbon materials can be produced and placed in absorbent articles, overcoming common objections about the black color of activated carbon.

In the Claims:

1. (Amended) Activated carbon coated with a water-insoluble coating material comprising a binding agent and a masking agent, the coating material having an add-on level relative to the uncoated activated carbon of at least 5%, and the coated activated carbon having a Relative Adsorption Efficiency with respect to at least one odoriferous agent of at least 30%, the odoriferous agent being selected

from the group comprising ammonia, triethylamine, trimethylamine, dimethyldisulphide, and [isovaleric] isovaleric acid.

13. (Amended) The coated activated carbon material of Claim 1, wherein the coating material is [substantially] opaque and is not white or gray.

24. (Amended) The coated activated carbon of Claim 1, wherein the masking agent is [relatively] more concentrated at [the] an outer surface of the coating material than at an inner surface of the coating material.

25. (Amended) The coated activated carbon of Claim 1, wherein the masking agent is [relatively] more concentrated at [the] an inner surface of the coating material than at an outer surface of the coating material.

28. (Amended) The coated activated carbon of Claim 27, wherein the binding agent is [substantially] insoluble in water.